

ROTATING ANODE FOR X-RAY TUBE USING INTERFERENCE FIT

Abstract of Disclosure

A method for assembling a rotating X-ray tube, the X-ray tube having a cathode for emitting electrons, and a rotor and a bearing assembly for facilitating rotation of an anode. The method includes using an interference fit assembly between the bearing assembly and the rotor to provide a joint having balance retention. The using interference fit assembly further includes selecting a rotor hub of the rotor having a coefficient of thermal expansion which results in a composite coefficient of thermal expansion for the rotor assembly which closely matches that of a shaft of the bearing assembly. The shaft and aperture in said rotor hub are configured to interference fit tolerances and then joined providing a joint having balance retention. An interference fit joint between a shaft extending from a bearing assembly and a rotor hub is also disclosed, wherein the joint is completed without using any mechanical fasteners or metallurgical bonding, yet can carry all of the operational loads placed on the joint.

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Figures

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